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PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A.			KIM, DAVID S	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/068,191

Applicant(s)

VAN ASTEN, FRANCIS C.

Examiner

David S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 26 August 2002.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s):

(claims 13-14 and 16) bending means, and

(claim 19) an infrared signal detection unit for detecting signal direction and strength.

No new matter should be entered.

2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. **Claims 20-21** are objected to because of the following informalities:

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In claim 20, last two lines, "it's lease wires bent whereby said LED has it's central aiming axis" is used where -- its lead wires bent whereby said LED has its central aiming -- may be intended.

In claim 21, last two lines, "central aiming axis at least two of the LED's drawing different alignment directions for their respective two lead wires" appears to read awkwardly.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1, 3-6, 8, 10-11, 13-16, and 20-21** are rejected under 35 U.S.C. 102(b) as being anticipated by Bond et al. (U.S. Patent No. 6,002,138, hereinafter "Bond").

Regarding claim 1, Bond discloses:

An infrared transmission and receiving system for an information stream transmission, the system comprising:

an environment (Fig. 4);

an emitter unit (70 in Fig. 4) mounted in an elevated position within the environment, the emitter unit having a plurality of LEDs connected to a circuit board (Fig. 5), each of the LEDs having lead wires, each of the plurality of LEDs further having a selective angular direction for emitting infrared radiation media and at least two LEDs having different angular directions, at least one of the at least two LEDs having its pair of lead wires bent defining the LEDs angular direction; and

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at least one receiver unit (receiver 95 in Fig. 4) for receiving the infrared radiation media and translating the radiation media into discernable media.

Regarding claim 3, Bond discloses:

The system of claim 1, wherein the selective angular direction of the plurality of LEDs is achieved by bending a pair of bendable wire leads (Fig. 5, col. 5, l. 58) that connect each LED to the circuit board.

Regarding claim 4, Bond discloses:

The system of claim 1, wherein the at least one receiver is used to translate the discernable media into audio for use by at least one of the plurality of people (Fig. 4, col. 5, l. 50-54).

Regarding claim 5, Bond discloses:

An emitter unit for an infrared transmission system, the emitter unit comprising:
an LED mounting board (Fig. 5, circuit board 100); and
an array of LEDs (LEDs in Fig. 5), each of the LEDs having an infrared light emitting portion each light emitting portion having a selective angular direction of emission, and
a pair of bendable lead wires (bendable wires 97) extending from the light emitting portion to the mounting board, at least one of the plurality of LEDs having the pair of lead wires selectively bent whereby the angular direction of emission of the light emitting portion is in an angular direction of emission different from that of at least one other of the plurality of LEDs.

Regarding claim 6, Bond discloses:

The emitter unit of claim 5, wherein at least one of the plurality of LEDs have an angular direction of emission perpendicular (center LED in Fig. 5) to the surface of the circuit board.

Regarding claim 8, Bond discloses:

The emitter unit of claim 5, wherein each pair of lead wires have an alignment direction and wherein at least two of the alignment directions of 2 LEDs are different (Fig. 5).

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Regarding claim 10, Bond discloses:

The emitter unit of claim 5, wherein at least 2 of the LEDs have different angles from the mounting board from one another (Fig. 5).

Regarding claim 11, Bond discloses:

The emitter unit of claim 5, wherein each of the pairs of bendable lead wires have an easy bend axis and where at least two of the easy bend axis are not parallel (Fig. 5, col. 6, l. 1-2).

Regarding claim 13, Bond discloses:

The emitter unit of claim 5 wherein a bending means (implied by bendable characteristic in col. 6, l. 1-2) is used for bending the wire leads to adjust the different angular directions of a selected group of the plurality of LEDS.

Regarding claim 14, Bond discloses:

An infrared transmission and receiving system for an information stream transmission, the system comprising:

an environment (Fig. 4);

an emitter unit (70 in Fig. 4) mounted in an elevated position within the environment, the emitter unit having an array of LEDs connected to a circuit board (Fig. 5), each of the LEDs having lead wires, each of the plurality of LEDs further having a selective angular direction for emitting infrared radiation media and at least two LEDs having different angular directions, at least one of the LEDs having its pair of lead wires bent defining the LEDs angular direction;

at least one receiver unit (receiver 95 in Fig. 4) for receiving the infrared radiation media and translating the radiation media into at least one of the set of analog and digital media; and

a bending means (implied by bendable characteristic in col. 6, l. 1-2) for bending lead wires which connect the plurality of LEDS to the circuit board.

Regarding claim 15, Bond discloses:

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A method of configuring an infrared emitter unit for use in transmitting an infrared signal to a selectable transmission coverage area for receipt by an infrared receiving unit within said coverage area, comprising the steps of:

connecting a plurality of LEDs to an emitter circuit board (Fig. 5), with each of the plurality of LEDs having a light emitting portion and at least two lead wires connecting the emitting portion and the circuit board; and

selectively bending (bends in Fig. 5) the at least two lead wires of at least one of the plurality of LEDs such that an angular emitting direction is defined for the transmission of an infrared radiation media.

Regarding claim 16, Bond discloses:

A method for an end user to configure an infrared emitter unit in an environment for use in transmitting an infrared signal to a selectable transmission coverage area in said environment for receipt by an infrared receiving unit within said coverage area, comprising the steps of:

observing the configuration of the environment (implied by selection of “a direction or pattern which facilitates reception of the signals” in col. 6, l. 3-7),

selecting a desired configuration for the transmission coverage area (implied by selection of “a direction or pattern which facilitates reception of the signals” in col. 6, l. 3-7);

gaining access (access is required to bend the LEDs, col. 6, l. 1-2) to the LEDs of the emitter unit, with each of the plurality of LEDs having a light emitting portion and at least one lead wire intermediately connecting the emitting portion to a circuit board; and

selectively (bending the LEDs, col. 6, l. 1-2) bending the at least one lead wire of at least one of the plurality of LEDs with bending means such that an angular emitting direction is adjusted for the transmission of an infrared radiation media whereby the desired configuration for the transmission coverage area is obtained.

Regarding claim 20, Bond discloses:

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An infrared emitter unit comprising:

a housing (hollow device 70 in Figs. 1-4) enclosing a mounting board, the mounting board (circuit board 100 in Fig. 5) having a front face with a plurality of LEDs extending therefrom, each LED having at least two lead wires extending from the mounting board, each LED having a projection area with a central aiming axis, the projection areas of the plurality of LEDs defining a coverage area (col. 6, l. 3-7) of the emitter unit, the coverage area adjustable by moving the projection areas and central aiming axis of individual LEDs by bending (col. 6, l. 1-2) the at least two lead wires of the individual LEDs, at least one of the plurality of LEDs having its lead wires bent whereby said LED has its central aiming axis in a direction at least 10° from the central aiming axis of another of the plurality of LEDs (Fig. 5).

Regarding claim 21, Bond discloses:

An infrared emitter unit comprising:

a housing (hollow device 70 in Figs. 1-4) enclosing a mounting board, the mounting board (circuit board 100 in Fig. 5) having a front face with a plurality of LEDs extending therefrom, each LED having two lead wires extending from the mounting board, each of the two lead wires having an alignment direction, each LED having a projection area with a central aiming axis, the projection areas of the plurality of LEDs defining a coverage area (col. 6, l. 3-7) of the emitter unit, the coverage area adjustable by moving the projection areas and central aiming axis at least two of the LED's drawing different alignment directions for their respective two lead wires (col. 6, l. 1-2).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 2, 7, 9, 12, and 17-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bond.

Regarding claim 2, Bond does not expressly disclose:

The system of claim 1, wherein the environment is an indoor auditorium designed for the gathering of a plurality of people.

Rather, Bond broadly discloses the use of its invention in any location where people would like to go, such as the restroom and an elevator (Fig. 4). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include an indoor auditorium as an environment for the system of Bond. One of ordinary skill in the art would have been motivated to do this since an indoor auditorium is a normal everyday location where people would like to go.

Regarding claims 7 and 9, these claims introduce limitations regarding the positioning of the LEDs. Bond does not expressly disclose these limitations:

(claim 7) The emitter unit of claim 5, wherein one of the plurality of LEDs is on a right side of the circuit board and the pair of lead wires of said LED is bent pointing said LED in a leftwardly direction and wherein one of the plurality of LEDs is on a left side of the circuit board and the lead wires of said LED are bent pointing said LED in a rightwardly direction.

(claim 9) The emitter unit of claim 5, wherein at least two of the plurality of LEDs have different angles from the vertical from one another from a perspective of directly in front of the board.

Rather, Bond broadly discloses that adjustment is permitted (col. 6, l. 1-2). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to position the LEDs according to the limitations of claims 7 and 9. One of ordinary skill in the art

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would have been motivated to do this since such positioning could correspond favorably to a desirable transmission direction or pattern that facilitates reception of the signals (col. 6, l. 3-7j). Additionally, these various positions of the LEDs appear to be intuitively quite obvious and simple to implement.

Regarding claim 12, Bond discloses:

The emitter unit of claim 5, wherein the different angular directions of the plurality of LEDs is adjustable by an end user (col. 6, l. 1-2).

Bond does expressly disclose:

The emitter unit of claim 5, wherein the different angular directions of the plurality of LEDs is *manually* adjustable by an end user (col. 6, l. 1-2).

However, manual adjustment, or adjustment by hand, is the standard way of positioning LEDs. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to *manually* adjust the LEDs of Bond. One of ordinary skill in the art would have been motivated to do this since it is simple, conventional in the art, and intuitively obvious.

Regarding claim 17; Bond discloses:

A method for an end user to configure an infrared emitter unit in an environment for use in transmitting an infrared signal to a selectable transmission coverage area in said environment for receipt by an infrared receiving unit within said coverage area, comprising the steps of:

accessing (access is required to bend the LEDs, col. 6, l. 1-2) the LEDs of the emitter unit, with each of the plurality of LEDs having a light emitting portion and a pair of lead wires intermediately connecting the emitting portion to a mounting board; and

selectively bending (bending the LEDs, col. 6, l. 1-2) the at least one lead wire of at least one of the plurality of LEDs with bending means to adjust the size and shape of the transmission coverage area.

Bond does not expressly disclose:

receiving infrared signal information from an infrared signal detection unit within the environment for providing information on the infrared signal boundaries of the transmission coverage area; and

selectively bending (bending the LEDs, col. 6, l. 1-2) the at least one lead wire of at least one of the plurality of LEDs with bending means to adjust the size and shape of the transmission coverage area based on the information from the infrared signal detection unit.

However, this receiving step is intuitively obvious throughout the communication arts. For example, similar steps are performed by average users of cellular phones to determine the signal boundaries of their transmission coverage area. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement this step for the method of Bond. One of ordinary skill in the art would have been motivated to do this to determine the signal boundaries of the transmission coverage area.

Accordingly, with the knowledge of these boundaries, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to perform the step of selectively bending the at least one lead wire of at least one of the plurality of LEDs with bending means to adjust the size and shape of the transmission coverage area *based on the information from the infrared signal detection unit*. One of ordinary skill in the art would have been motivated to do this to adjust the size and shape of the transmission coverage to a desired direction or pattern that facilitates reception of the signals (col. 6, l. 3-7).

Regarding claim 18, Bond discloses:

The method of claim 17, further comprising the step of selecting an infrared signal detection unit for the infrared receiving unit (receiver 95 in Fig. 4).

Regarding claim 19, Bond does not expressly disclose:

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The method of claim 17, further comprising the step of selecting an infrared signal detection unit *for detecting signal direction and strength*.

However, signal direction and strength are common diagnostic characteristics that are tested whenever communication systems are installed. As discussed above with regard to the signal boundaries (see treatment of claim 17 above), at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to select and employ an infrared signal detection unit *for detecting signal direction and strength*. One of ordinary skill in the art would have been motivated to do this to provide common diagnostic information so that one can precisely install the communication system of Bond with transmission coverage that corresponds to a desired direction or pattern that facilitates reception of the signals (col. 6, l. 3-7).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grunwald is cited to show an infrared transmission and receiving system with an indoor auditorium environment, infrared emitter units, and receiver units for translating discernable media into audio for use by people. Abe is cited to show an infrared receiving unit for translating discernable media into audio for use by people. Kerklaan et al. is cited to show an emitter unit with a plurality of LEDs connected to a circuit board, each of the LEDs having lead wires, each of the plurality of LEDs further having a selective angular direction for emitting infrared radiation media and at least two LEDs having different angular directions, at least one of the least two LEDs having its pair of lead wires bent defining the LEDs angular direction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DSK



M. R. SEDIGHIAN
PRIMARY EXAMINER